

Remarks

I. Status of Claims

Claims 1-10 and 12-13 are pending in the application and are rejected. Claim 1 is independent. By this response, claims 1-2 are amended, claim 11 is canceled without prejudice to or disclaimer of the subject matter therein, and claim 13 is newly added.

Claims 1-10 and 12 stand rejected under 35 U.S.C. 103(a) as being allegedly being unpatentable over Meacher *et al* (USP 5,858,569) (hereinafter “Meacher”) in view of Hiroshi *et al* (JP 11-339,828) (hereinafter “Hiroshi”) or unpatentable over Hiroshi in view of Meacher and further in view of Yoshimura *et al* (USP 6,921,094) (hereinafter “Yoshimura”).

Applicant respectfully requests reconsideration of the rejections in view of the following remarks.

II. Pending Claims

Independent claim 1, the only independent claim, stands rejected under 35 U.S.C. 103(a) as being allegedly being unpatentable over Meacher in view of Hiroshi or unpatentable over Hiroshi in view of Meacher and further in view of Yoshimura.

Claim 1 is patentable over the cited references because it at least recites, “wherein an anti-corrosion surface treatment on the gas passage portion includes a metal plating and a carbon coat formed on the metal plating, and an anti-corrosion surface treatment on the contact portion is the metal plating being brought into contact with the terminal of the cell voltage monitor directly.”

The present application regards, treating a surface of a gas passage portion of a separator of a fuel cell with a metal plating and a carbon coat formed on the metal plating. By treating the metal plating with a carbon coat, a pinhole on the metal plating is filled. Using this process, the corrosion resistance of the gas passage portion improves.

In addition, at a contact portion, the carbon coat is not applied, thus exposing a surface of the metal plating. The contact portion is brought into contact with the terminal of the cell

voltage monitor directly. Therefore, the surface flatness of the contact portion is maintained, and the contact resistance at the contact portion is stabilized. Consequently, the detected voltage accuracy is improved. Certain embodiments of the present invention improve both the corrosion resistance of the gas passage portion and the detected voltage accuracy. Neither Meacher nor Hiroshi teaches and/or suggests the features as recited in claim 1.

Further, newly added claim 13 recites, “the contact portion is provided near the gas manifold portion” and “the terminal of the cell voltage monitor contacts the metal plating directly, by the contact portion being masked during carbon coating.”

In the present application, the gas passage is twisted to increase the velocity of the gas flow and to supply the gas all over the cell. As a result, the gas manifold portions (e.g., inlet/outlet to/from the gas passage) are located near the separator corner as shown in Fig. 3. The cell voltage monitor housings are arranged in alternating fashion on the right and left sides of the fuel cell in the stacking direction to maintain the setting space of the housings. Thus, the contact portions of the terminals of the cell voltage monitor are located at right and left sides of the cell and are also located near the separator corner. Therefore, the contact portion of the terminal of the cell voltage monitor is located near the gas manifold portion. These arrangements can improve productivity.

With respect to the contact portion being masked during carbon coating limitation of claim 13, in mass production, the carbon-coated area may be misaligned from the gas manifold portion, and the contact portion to the terminals of the cell voltage monitor, which is located near the gas manifold portion, may be coated with carbon. In the present application, the contact portion is masked during carbon coating to prevent the contact portion from being carbon-coated during mass production. Therefore, certain embodiments of the present invention can improve mass-productivity while stabilizing the contact resistance.

Thus, for at least these reasons, the Applicant respectfully submits that neither Meicher, Hiroshi, nor Yoshimura either alone or in combination, teach or suggest the recited apparatus, and claim 1 and its dependent claims are patentable over the cited references.

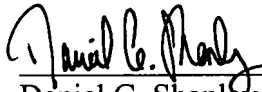
III. Conclusion

In light of the above discussion, Applicant respectfully submits that the present application is in all aspects in allowable condition, and earnestly solicits favorable reconsideration and early issuance of a Notice of Allowance.

The Examiner is encouraged to contact the undersigned at (202) 220-4420 for any further description or clarification on this response, or regarding any other matter concerning this application. The Office is authorized to charge any fees related to this communication to Deposit Account No. 11-0600.

Respectfully submitted,

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